

Project Proposal

Proposal Title: Castle Valley Habitat Improvement and Fuel Reduction

Proposal Number: 1400

DWR Region: Southeastern Region

Lead Agency: Other

County: Grand

Project Manager: Tamsin McCormick

PM Phone: 4356133717

Regional Priority: Within Focus Area

Project Type: Terrestrial Habitat

Proposed Start Date: 07/01/2009

Project Location: Project area located near the town of Castle Valley.

Project Description: Reduce cheatgrass and diffuse knapweed invasions on approximately 75 acres of cheatgrass infestations and 400 acres of diffuse knapweed in the Castle Creek Watershed.

Description of Problem/Need: Castle Valley was largely grazing and alfalfa production prior to residential development in the lower valley, which started in the 1970's, and now has large areas of degraded sage stands and cheatgrass. The vegetation is largely desert grassland, grading into sage or blackbrush scrub and juniper with increasing elevation in the central valley. Pinyon-juniper occurs on margins and upper reaches of the valley, grading into mountain shrub on Forest Service land in the upper watershed. Diffuse Knapweed, listed as a Utah noxious species, was initially introduced at Porcupine Ranch has now spread down Placer Creek, into Castle Creek and along roadsides in the upper watershed. It is largely unknown elsewhere in Grand County and threatens to spread to adjacent watersheds and into the Colorado River corridor.

The Castle Valley community has great concern both with fire in cheat grass and tamarisk infestations and with water quality in the sole-source aquifer (EPA-designated in 2001), which serves as their drinking water. A recent 3400-acre lightning-caused wildfire in the upper watershed (Porcupine Ranch Fire 8/08) has displaced wildlife, already recognized as critical deer winter range. The burn area represents a significant threat for debris flows and flooding for the community, as well as invasion by diffuse knapweed, already prevalent on Porcupine Ranch at the margin of the burn. A 220-acre 2006 lightning-caused wildfire in the center of the valley is now a stand of cheatgrass and Broom Snakeweed creating poor habitat and increased fire threat. Plateau Restoration, a 501(c) 3 non-profit organization, has worked with the Castle Valley community, the County, and land managers since 2004 to protect the aquifer from herbicides, using volunteers to manually control diffuse knapweed as well as initiating a Weed Management Area and conducting weed monitoring. The EPA has designated this area as a sole source aquifer and herbicide use, including plateau herbicide, is not supported by local government and local residents. The Castle Valley Fire Protection District and community volunteers have also been working with Utah Division of Forestry, Fire and State Lands (UFFSL) to reduce tamarisk and Russian Olive along Castle Creek and to maintain a reduced fuel buffer along a fence between SITLA and private property. They are also experimenting with cheatgrass control by mowing on private lands in the Town. The project is at a critical stage for developing and implementing a comprehensive Watershed Protection Plan that includes a Weed Management Plan and Fire Plan. This is a prime opportunity for Castle Valley to expand long-range community and inter-agency involvement, as there is significant overlap in goals of several ongoing fire and weed projects.

Objectives:

- 1) Improve habitat by increasing cover of diverse native forage species in decadent sage, woodland and grasslands on public and private lands in Castle Valley, recognized as critical mule deer winter range.
- 2) Protect the quality of surface and groundwater in the watershed by controlling listed noxious weed invasions, thereby reducing threat of herbicide contamination of the sole-source aquifer.
- 3) Reduce the threats to critical habitats and the local community of 360 residents from catastrophic wildfires and devastating floods.
- 4) Prevent the spread of Diffuse Knapweed beyond the Castle Creek watershed.

Relevance to Strategic Plans: Utah Open Lands / DWR LaSal Herd Critical Range Conservation Easement for portion of designated critical mule deer winter range (pinyon/juniper) (20% of area); within Forest focus area and mountain shrub habitats (30% of area); shrubsteppe (50% of area).
Castle Valley Fire Plan
USFS Willow Basin Fuel Reduction
USFS Porcupine Fire Response (BAER and NRCS efforts)
Southeast Utah Tamarisk Partnership (SEUTP) Colorado River Woody Invasive Species Management Plan
Castle Valley Weed Management Plan (in development)

Potential Risks: 1) Fire in cheatgrass, 2) Increased potential flooding above Porcupine Ranch Fire, 3) increased risk to invasion by diffuse knapweed in burn areas, 4) Knapweed, tamarisk and Russian Olive are at a stage they can be controlled w/o herbicide

Proposed Methods: Treatment will be continued through the project period on 400 acres known to have diffuse knapweed, especially along roadsides, on 10 acres of Porcupine Ranch at the margin of the fire and along 2 miles of riparian habitat in Placer Creek. Diffuse Knapweed will be removed by non-chemical methods (fire, manual, mechanical, and biocontrol). Occasional tamarisk and Russian Olive occurring in the upper drainages will be removed by cutting hand digging out stumps.
Castle Valley property owners (10 acres seeding, 5 acres knapweed control)
Utah Open Lands (15 acres seeded)
Porcupine Ranch (10 acres seeded; 5 acres knapweed control)
SITLA (30 acres seeded, 150 acres knapweed control)
USFS (10 acres seeded, 120 acres knapweed control)
BLM (120 acres knapweed control)
The management will be continued by partnerships developed with this project, especially within the Town of Castle Valley and surrounding community. The existing partnership between Grand County Weed Department, Town of Castle Valley and Plateau Restoration, started for watershed protection, has been in place since 2004. A new comprehensive plan for Castle Valley Watershed

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Protection will be developed with the addition of Castle Valley Fire Department and their partners. Additional USFS fuel reduction projects for the upper watershed are in the planning stages. Ongoing fuel reduction projects and Firewise program initiatives on private lands in Castle Valley are being coordinated by UFFSL, Castle Valley Fire Protection District and local volunteers.

Due to a pending land exchange of almost 4000 acres from SITLA to BLM, 2200 of which are in the incorporated area, treatments should remain protected from development.

We will actively remove cheatgrass and decadent sage biomass to create fire-defensible spaces throughout the project period. Recent burn areas and treatments will be seeded with forage grasses and shrubs, using minimal disturbance to protect biological soil crusts. Treatment will cover a total of 75 acres of range, mostly within a 600-acre area of degraded habitat and high fire hazard. In addition, a 30 ft buffer along a 5-mile fence between SITLA and Town property will be treated. Methods will include using amended weed-free clay balls impregnated with seed, mowing cheatgrass and hand-operated tools for cheatgrass, sage and tamarisk removal. Seed and planting instructions will also be given to land owners who participate in cheatgrass control on their private properties.

Most of the labor will be approximately 100 volunteers, largely college students in Spring Break service-learning programs with Plateau Restoration, and Castle Valley volunteer fire department and community members. State and Federal agencies will assist with planning and implementation, tamarisk removal, seed and GIS services. Town and County governments and local residents will assist with project management and provide mowing equipment. The Castle Valley Fire Protection District can assist with watering of seeded areas where appropriate. Members of the community will be educated about fire hazards and noxious weeds through workshops and printed materials.

Plateau Restoration has contacted STILA archaeologist Monsen Shaver and he has said "As ground disturbance will be minimal during the project a cultural resource survey will not be required on SITLA properties"

Shapefile Name: HPD 2010\GIS Shape Files - Proposals\SER\1400.shp

Seed Source: GBRC

UPCD Reg Team Coord Date: 12/02/2008

**Proposed
NEPA Action:**

**Proposed
Arch Action:**

☒ **Vegetation Monitoring** ☐ **Wildlife Monitoring**

Monitoring Information: We will continue monitoring 4000 acres in the Castle Creek watershed for diffuse knapweed and other listed noxious species as well as for the presence of biocontrol agents (tamarisk and diffuse knapweed). Photographic trends and vegetation monitoring will be conducted in test sites within treatment plots.

Grazing Management: Private lands will be protected from cattle grazing for the long-term. The Porcupine Ranch burned area will be closed to grazing for at least 2 years. Efforts are currently being made to get approval from the BLM for small exclosures for Diffuse Knapweed biocontrol insectaries and from SITLA and the new grazing permittee for monitoring plots and to provide a continued native seed source.

SPECIES BENEFITING

Merriam's Wild Turkey	Elk	Mule Deer	Greater Sage-grouse
Southwestern Willow Flycatcher	Burrowing Owl	Bald Eagle	

LAND OWNERSHIP

Owner	Acres
SITLA	180
Private	30
USFS	130
BLM	120
Private/DWR	15
Total	475

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PROPOSED FUNDING

Source	Amount Requested	Date Approved	Amount Approved
SITLA	\$1,000.00		\$0.00
DNR Watershed (FY10)	\$60,000.00		\$0.00
FFSL	\$1,000.00		\$0.00
BLM	\$1,000.00		\$0.00
EPA 319	\$10,000.00		\$0.00
Plateau Restoration	\$10,000.00		\$0.00
USFS	\$1,000.00		\$0.00
Grand County Weed Dept.	\$1,000.00		\$0.00
Castle Valley	\$5,000.00		\$0.00
Totals	\$90,000.00		\$0.00

PROPOSED BUDGET

Item	Description	DWR Account	In Kind/ Partner Contrib.
Personal Services		\$40,000.00	\$28,000.00
Contractual Services	(\$50/acre)	\$4,000.00	\$0.00
Equipment Rental		\$2,000.00	\$0.00
Equipment Purchases		\$2,000.00	\$0.00
Materials and Supplies	hand-tools, soil amendments	\$1,000.00	\$0.00
Seed (GBRC)		\$5,000.00	\$2,000.00
Other	Administrative costs (insurance)	\$4,000.00	\$0.00
Travel		\$2,000.00	\$0.00
Totals		\$60,000.00	\$30,000.00

Project Map: